

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-9 (cancelled)

Claim 10. (currently amended) An electro spinning apparatus for producing a continuous polymer filament, fiber and the like from a thread-forming polymer, which comprises:

- a. an electrically conductive liquid polymer extrusion die having at least one die orifice,
- b. an electrically conductive filament collection means spaced from the die orifice,
- c. an electrode means positioned between the die orifice and the filament collection means, the electrode means comprising n chargeable electrodes, wherein n is an integer of from 1 to 50,
- d. means for providing a first electrical bias to the die and an $(n+2)^{\text{th}}$ electrical bias to filament collection means,
- e. means for providing a second electrical bias to the electrode means, said second electrical bias having the same polarity and a magnitude equal to or less than that of the first electrical bias, and
- f. wherein the electrode means comprises a plurality of longitudinally spaced electrodes.

Claim 11. (currently amended) The electro spinning apparatus of Claim 10 wherein the electrode means comprises a plurality of ring electrodes having a concentric axis.

Claim 12. (cancelled)

Claim 13. (previously presented) The electro spinning apparatus of Claim 10 wherein the electrode means comprises a plurality of 3 to 50 uniformly spaced electrodes.

Claim 14. (currently amended) The electro spinning apparatus of Claim 10 wherein the ~~electrode means comprises a plurality of electrodes, biased to provide~~ further including bias means applied to said electrode means for producing a linear field gradient between the die and the filament collection means.

Claim 15. (currently amended) The electro spinning apparatus of Claim ~~10 wherein the electrode means comprises 1 to 20 electrodes, sequentially biased to provide~~ 13 further including bias means applied to said electrode means for producing a linear field gradient between the die and the filament collection means.

Claim 16. (previously presented) The electro spinning apparatus of Claim 10 wherein the electrically conductive filament collection means is spaced at least about 3 centimeters from the die orifice.

Claim 17. (cancelled)

Claim 18. (previously presented) The electro spinning apparatus of Claim 10 wherein the first and second electrical biases are positive and the $(n+2)^{\text{th}}$ electrical charge is ground.

Claim 19. (previously presented) The electro spinning apparatus of Claim 10 wherein n is an integer of from 3 to 20.

Claim 20. (previously presented) The electro spinning apparatus of Claim 10 wherein n is an integer of from 5 to 10.

Claim 21. (previously presented) The electro spinning apparatus of Claim 10 wherein the chargeable electrodes are independently biased.

Claim 22. (new) The electro spinning apparatus of Claim 11 wherein said at least one die orifice and the concentric axis of said plurality of ring electrode means are in substantial vertical alignment such that polymer extrusion from the extrusion die will move through each of the ring electrodes in transit to the filament collection means.

Claim 23. (new) An electro spinning apparatus for producing a continuous polymer filament comprising:

a liquid polymer extrusion die having at least one die orifice;

a filament collection means spaced from the die orifice;

an electrode means positioned between the die orifice and the filament collection means including at least three spaced apart ring electrodes; and

means for applying a different electrical bias voltage to each of said at least three spaced apart ring electrodes for generating a sequentially biased electrostatic field along an intended direction of motion of polymer extrusion from said die orifice.

Claim 24. (new) The electro spinning apparatus of Claim 23 wherein said ring electrodes have a concentric axis in substantial alignment with the intended direction of motion of polymer extrusion from said die orifice.

Claim 25. (new) The electro spinning apparatus of Claim 24 wherein said at least one die orifice and said plurality of ring electrode means are in substantial vertical alignment such that polymer extrusion from the extrusion die will move in a substantially vertical direction through each of the ring electrodes in transit to the filament collection means.

Claim 26. (new) The electro spinning apparatus of Claim 25 wherein said means for applying a different electrical bias voltage to each of said at least three spaced apart ring electrodes including a voltage supply and a plurality of voltage divider resistors connected to said ring electrodes.

Claim 27. (new) The electro spinning apparatus of Claim 23 wherein said means for applying a different electrical bias voltage to each of said at least three spaced apart ring electrodes including a voltage supply and a plurality of voltage divider resistors connected to said ring electrodes.